

WEST

## Freeform Search

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## Search History

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side by side

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<u>L10</u>	L9 and (network near event)	22	<u>L10</u>
<u>L9</u>	monitor\$ near network near performance	121	<u>L9</u>
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<u>L6</u>	L5 and purg\$	1	<u>L6</u>
<u>L5</u>	6571285.pn.	1	<u>L5</u>
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## Print Selection

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<input checked="" type="checkbox"/>	6216163	all	all	27	USPT
<input checked="" type="checkbox"/>	6209033	all	all	20	USPT
<input checked="" type="checkbox"/>	6115393	all	all	* 62	USPT
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<input checked="" type="checkbox"/>	6076174	all	all	7	USPT
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<input checked="" type="checkbox"/>	5615135	all	all	10	USPT

**Note:** Print requests for more than 49 pages are denoted by '\*' and are in red.

**Building****Room****Printer**

cpk2



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Generate Collection

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L11: Entry 5 of 15

File: USPT

Apr 10, 2001

DOCUMENT-IDENTIFIER: US 6216163 B1

TITLE: Method and apparatus providing for automatically restarting a client-server connection in a distributed network

Brief Summary Text (13):

A method for monitoring network performance in a distributed network is described. The method provides a user interface allowing easy visualization of the performance together with methods and apparatus for determining the distance from a client to a server in the network, for determining a service provider domain, for determining network congestion level, for determining bottleneck throughput, for determining bottleneck location, for determining page retrieval time and for automatically restarting a page under predetermined conditions.

Detailed Description Text (12):

The visualization tool provides an interface 201. The interface 201 includes relatively traditional tools such as FILE, VIEW, WINDOW, HELP, blocks 202 and 203 which will not be discussed here in detail. In addition, the visualization tool includes a textual scrolling display line 204 which scrolls textual network status information.

Detailed Description Text (13):

The visualization tool also provide a graphical depiction of the connection between computer 101 and server 141 in box 205. In box 205, computer 101 is illustrated as being 13 hops from server 141. The status of the communication between the two devices ("Transferring data") is noted in text and is also graphically noted by a "flying page" which moves across the graphical display from the server to the computer.

Detailed Description Text (50):

In any event, the network throughput can be computed based on the delay and packet size differences, block 636. In the example, to send an extra 600 bytes (700-100), it required an additional 10 seconds. Thus, the current network throughput is thus computed at a data transmission rate maximum of 60 bytes per second in the example.

## CLAIMS:

8. A client comprising:

- a) a first data storage programmed to contain a client application program;
- b) a second data storage programmed to contain a socket layer program;
- c) a third data storage programmed to contain a network layer program;
- d) a fourth data storage programmed to contain a socket filter program which, when executing, intercepts communications between the network layer program and the client application program and provides the communications to a socket analysis program; and
- e) a fifth data storage programmed to contain the socket analysis program which, when executing, maintains socket status information and analyzes events, and computes a page retrieval time, wherein the socket analysis program automatically restarts a page request if the page retrieval time exceeds a predetermined threshold.

## WEST



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L11: Entry 7 of 15

File: USPT

Sep 5, 2000

DOCUMENT-IDENTIFIER: US 6115393 A

TITLE: Network monitoring

Detailed Description Text (133):

The rate and % fields of network event variables are updated differently than counter or meter fields in that they are calculated at fixed intervals rather than on receipt of data from the network.

Detailed Description Text (139):

The calculation algorithms for the rate and % fields of network event variables are as follows.

Detailed Description Text (317):

Network event statistics are maintained on a per network, per segment and per node basis. Within a node, statistics are maintained on a per address (as appropriate to the protocol layer--IP address, port number, . . . ) and per connection basis. Per network statistics are always derived by the Workstation from the per segment variables maintained by the Monitors. Subsets of the basic statistics are maintained on a node to node and segment to segment basis.

Detailed Description Text (326):

3. The node status change is propagated up through the (map) hierarchy to support the case where the node is not visible on the screen. This is as provided by SNM.

Detailed Description Text (328):

After the user has selected an object from the map and invokes the display tools, the summary tool generates the user's initial screen at the Management Workstation. It presents a set of statistical data selected to give an overview of the operational status of the object (e.g., a selected node or segment). The Workstation polls the Monitor for the data required by the Summary Tool display screens.

Detailed Description Text (352):

Referring the FIG. 24, the details of the training procedure for adaptively setting the Network Monitor thresholds are as follows. To begin training, the Workstation sends a start learning command to the Network Monitors from which performance data is desired (step 302). The start learning command disables the thresholds within the Network Monitor and causes the Network Monitor to periodically send data for a predefined set of network parameters to the Management Workstation. (Disabling the thresholds, however, is not necessary. One could have the learning mode operational in parallel with monitoring using existing thresholds.) The set of parameters may be any or all of the previously mentioned parameters for which thresholds are or may be defined.

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L11: Entry 8 of 15

File: USPT

Jul 11, 2000

DOCUMENT-IDENTIFIER: US 6088588 A

TITLE: Method and wireless terminal for monitoring communications and providing network with terminal operation information

Brief Summary Text (5):

Consequently, it is important for a service provider to monitor network performance and properly diagnose problems in network coverage in order to provide suitable service to subscribers. This is generally described as Operations, Administration, and Maintenance (hereafter OAM).

Brief Summary Text (7):

Other systems monitor network performance as viewed from the network base stations on a regular basis. In these cellular systems, the network OAM ends at the cell site. Performance of the system is measured with statistical information of mobile activity. System diagnostics are run with test equipment adjunct to the base station. These systems provide useful monitoring of conditions from the base stations' perspective, but are not capable of monitoring conditions from a terminal's perspective. This presents problems as asymmetrical conditions often occur, which can significantly degrade a terminal's reception of communications from its basestation, without necessarily degrading the basestation's reception of

Brief Summary Text (19):

In monitoring its communications with the network, the terminal monitors the air interface for call connection events and also makes regular measurements of network performance (e.g., bit error rate (BER) and received signal strength (RSS) logs measured at the terminal). The terminal then maintains and updates records relating to these call connection events and network performance. These records can comprise simple counters of event failures for each parameter monitored by the terminal. Alternatively these records can include more detailed information relating to each parameter, e.g., a call log including the time and date, channel, and duration of any failure, and events prior to the failure. This information can later be retrieved by the network. This information is useful as it serves as an indication of the terminal's view of the system performance.

Brief Summary Text (22):

In addition to monitoring network performance, the terminal can also carry out self monitoring of its own systems, and report any failures to the network. Advantageously, this provides for the early detection of CPE (Customer Premise Equipment) problems. The service provider can in turn arrange to fix a problem before the subscriber's service is seriously effected; potentially before the customer complains, or even becomes aware of the problem.

Detailed Description Text (34):

Referring to the Physical Layer Monitoring flow chart, the DVCC/SAT status is checked 410. If the fade timer is exceeded the terminal updates a fade timer record, 411, and the call is dropped. The terminal returns to 110 and scanning the control channels.

Detailed Description Text (41):

The terminal enters the test call mode 542 in response to condition being satisfied. This condition includes receiving an autoconnect order message 540 as described above. Other conditions include having one of the OA&M counter values exceed a predefined or remotely downloaded threshold, or on the expiration of specified time period from the last test call, or on a scheduled time basis, in which case the terminal can initiate a test call 532, for example, to a predefined network number associated with a network OAM function. If an appropriate condition is satisfied, the terminal enters the test mode 542. In test call mode, the terminal transmits its stored data, either all of it,

or specific records requested by the network 544. Optionally, selective terminal tests 546 can be initiated, stopped and results transmitted to the base station as will be discussed below. Additionally, local hardware status, power and battery status can be determined and transmitted.